

ABSTRACT OF THE DISCLOSURE

For limiting the lateral buckling of tensile armor plies of an underwater flexible pipe, that can be used in the offshore oil industry, the plies include from the outside inward, at least one external polymer sheath, a first outward retention layer of a defined thickness K_1 wound around an upper outer tensile armor ply, at least one second inward retention layer of a defined stiffness K_2 wound around each of at least one lower inner tensile armor ply. Stiffness K_2 is preferably less than stiffness K_1 , i.e., the retention layers outward are less stiff. There is then an internal polymer sheath.